The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the board

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte CHRISTOPHER M. JAKUBIEC

Appeal No. 2007-0340
Application 10/057,259[1]
Technology Center 2100

Decided: May 30, 2007

Before JOHN C. MARTIN, JOSEPH F. RUGGIERO, and LANCE LEONARD BARRY, *Administrative Patent Judges.*

MARTIN, *Administrative Patent Judge.*

DECISION ON APPEAL

This is an appeal from the Examiner's rejection of Claims 1-43, all of the pending claims, under 35 U.S.C. § 102(e).

We have jurisdiction under 35 U.S.C. § 134(a). We affirm-in-part.

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[1] Filed October 25, 2001.

APPELLANT'S INVENTION

Appellant's invention employs a scoreboard to initiate a data time-out sequence in a processor-based system whenever a requested transaction takes substantially longer than a predetermined latency period (Specification 4:19-5:2).

Referring to Figure 4, the scoreboard 400, which is located on an expander board 40, includes plural storage locations 410(1-m) each capable of storing a transaction data identifier that can include a client ID 411(1-m), a client tag 412(1-m), a first timer flag 413(1-m), and a second timer flag 414(1-m) (*id*. at 14:16-20).

A first client 420 requests data from a second client 430 by sending a signal to Address Expander Queue (AXQ) 395 (*id*. at 12:23 and 14:22-15:3). AXQ 395 transmits transaction data identifiers identifying first client 420 and second client 430 to scoreboard 400, which stores that information in client tag 412(1-m) and client ID 411(1-m), respectively, of one of locations 410(1-m) (*id*. at 15:3-7).

If first client 420 substantially receives the requested data from second client 430, first client 420 notifies scoreboard 400 that the transaction is substantially complete, at which time the scoreboard clears the corresponding client ID 411(1-m) and client tag 412(1-m) from the storage location 410(1-m) (*id*. at 15:21-16:2).

The failure of first client 420 to substantially receive the requested data can cause it to remain in an idle state while it waits for the requested data (*id*. at 16:9-10). Under these circumstances it is desirable to generate and transmit fill code to first client 420 after a predetermined latency period has substantially expired (*id*. at 16:13-15). This fill code need not correspond to the requested data but may permit first client 420 to proceed with its task (*id*. at 16:15-18. The fill code can constitute

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a notification to first client 420 that second client 430 failed to substantially provide the requested data (*id.* at 16:18-20).

A timer 450 is used to determine how long a client has been idle (*id.* at 16:22-23). This timer can be a free-running timer that cycles away from a zero-point and back again approximately once during a predetermined period approximately equal to the latency period (*id.* at 17:2). As shown in the flow chart of Figure 5, if the timer detects (at 520) an entry in one of locations 410(l-m), it examines (at 550) the corresponding first timer flag 413(1-m) (*id.* at 405). If first timer flag 412(1-m) is not already in the set state, it is set by the timer (at 560) (*id.* at 5-7). If the first timer flag 412(1-m) has already been set, the timer sets (at 570) the second timer flag 413(1-m), thereby indicating that the corresponding data transaction may have been idle for substantially more than one timer cycle (*id.* at 18:8-13). Returning to Figure 4, each pair of first and second timer flags 413(1-m) and 414(1-m) is monitored by a corresponding logic gate 460(1-m), which asserts a positive signal whenever both flags have been set (*id.* at 18:17-20).

The outputs of logic gates 460(1-m) are monitored by a multiplexer 470 and an arbiter 480 (Fig. 4). As shown in the flow chart of Figure 6, if multiplexer 470 detects (at 610) a positive assertion from first logic gate 460(1), the multiplexer transmits a positive assertion to the fill-code generator 490, which may then initiate (at 625) a data time-out sequence, such as creating (at 630) fill code to replace the data requested by first client 420 (*id.* at 19:4-10).

THE CLAIMS

Claims 1, 13, 19, and 31 are independent clams, of which Claim 1 reads:

1. An apparatus, comprising:
a scoreboard comprising a plurality of locations adapted to store transaction identifiers each associated with a transaction, wherein each transaction comprises a first client sending a request to a second client, and wherein each transaction identifier includes a first timer flag and a second timer flag; and
a device adapted to manage the plurality of transaction identifiers in the scoreboard.

THE REFERENCE AND REJECTION

The sole reference relied on by the Examiner is:

Eden	US 2002/0184361 A1	Dec. 5, 2002
		(filed May 16, 2001)

Claims 1-43 stand rejected under 35 U.S.C. § 102(e) for anticipation by Eden.

THE ISSUE

Does Eden disclose the argued features recited in the rejected claims?[2]

PRINCIPLES OF LAW

Anticipation is a question of fact. *In re Schreiber*, 128 F.3d 1473, 1477,

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[2] Appellant has the burden on appeal to the Board to demonstrate error in the Examiner's position. *Cf. In re Rouffet*, 149 F.3d 1350, 1355 47 USPQ2d 1453, 1455 (Fed. Cir. 1998) ("On appeal to the Board, an applicant can overcome a rejection [for obviousness] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.").

44 USPQ2d 1429, 1431 (Fed. Cir. 1997). "To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently" (*id.*).

DISCUSSION

Eden discloses a system and method for building a graphical user interface (GUI) in real-time for the purpose of indicating which known network-connected devices are available and which are unavailable.

As shown in Figure 3, querying device 102, which includes GUI 104 and timer 120, is responsive to commands from user interface 119 (referred to as 118 at 2, para. 30) to issue status queries to the network-connected devices 106-116 (*id.* at 2, para. 30).

Figure 6 illustrates Eden's method, which begins at Step 600. At Step 602, the GUI is built and represents every known network-connected device as an icon or other representation (*id.* at 3, para. 44). In Step 604, the GUI represents each device as being in its disabled or unavailable state (*id.* at 3, para. 37), such as by showing an X superimposed on the device icon that appears next to each device name (*id.* at 2, para. 32; Fig. 4). In Step 606, the GUI spawns N threads in order to ascertain the connection status of the devices. Step 608 shows that all of the threads are executed in parallel. In Step 610, the GUI modifies the display by removing the X from the icon of each device that has been determined to be available (*id.* at 3, para. 44). Figure 5 shows the GUI display after it has been determined that four of the six devices are available (*id.* at 2, para. 37).

Figure 7 illustrates the details of Steps 608 and 610 of FIG. 6 for Thread 1.

In Step 608a, the thread performs a query. If the queried device is present, the thread immediately returns a "True" reply in Step 608b (*id.* at 3, para. 45), in response to which the GUI in Step 610 immediately replaces the "unavailable" icon (i.e., the icon with an X) with an "available" icon (an icon without an X) and the thread terminates (*id.*). If, on other hand, the queried device is offline, a timeout period will expire (Step 608c) and the query will return a "False" value (Step 608d), in response to which the GUI continues to display the "unavailable" icon for that device (*id.* at 3, para. 45).

The timeout period is determined as follows. Querying device 102 includes an operating system (not shown) and a timer 120 configured with a default timeout value (*id.* at 2, para. 33). In some aspects of the invention, the operating system can provide the default timeout value (*id.*). The querying device 102 can use a Sockets connect function to attempt a socket connection to each of the network-connected devices (*id.* at 3, para. 38.) The connect function and some other functions have automatic timeouts determined by the protocols in use:

> Some functions, such as connect( ), will timeout automatically. The timeout for connect( ) affects non-blocking as well as blocking operations. The GUI application does not have any control over the timeout period for these functions, however, the network system alone determines when their timeout occurs. These network-system timeouts are related to the timeouts implemented for the protocols in use (e.g., ARP timeout, TCP SYN, ACK timeouts, or DNS query timeouts). The WinSock API does not provide a way to detect or change these network-system timeout values.

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(Id. at 3, para. 47.) These timeouts are referred to hereinafter as "network-system timeouts."

We agree with the Examiner that the recited "scoreboard . . . adapted to store transaction identifiers" reads on GUI 104 (Answer 4). In so holding, we assume the Examiner is reading the storage aspect of this limitation on the storage locations inherently required for storing the information displayed by the GUI. The Examiner also correctly reads the recited "transactions," each which is defined by Claim 1 as "a first client sending a request to a second client," on the queries that Eden's querying device 102 sends to the devices 106-116 (Answer 4; Advisory Action Before the Filing of an Appeal Brief 2[3]).

The Examiner reads the recited "transaction identifiers" on the "pictures of the device[s]" (Answer 15, para C), which we understand to be the device icons. This position is correct, because each icon represents a known device that either has been or will be queried regarding its availability.[4] Appellant's argument that the "device names" do not represent transactions (Reply Br. 2) is unresponsive to the Examiner's reliance on the device icons.

Turning now to the recited "first timer flag" and "second timer flag," the term "timer flag" is not defined in Appellant's specification and therefore must be given its broadest reasonable interpretation consistent with Appellant's disclosure. *In re Thrift*, 298 F.3d 1357, 1364, 63 USPQ2d 2002, 2006 (Fed. Cir. 2002). As a result,

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[3] Filed January 16, 2006.

[4] Claim 1 does not limit the recited "request" to a completed request.

the term is broad enough to read on any indicator that represents the passage of time. The Examiner reads the recited "timer flag[s]" on the icons having superimposed Xs, which identify devices whose queries did not receive a "True" reply. Specifically, the Examiner states that "if queries time out[,] [the] device is not available and a[n] X is placed over the device signifying the device is not available" (Answer 14, para. A). This statement is incorrect to the extent the Examiner means that the X is added when the timeout period expires prior to receipt of a "True" reply. As noted above, the result of not receiving a "True" reply during the timeout period is that the X is *not* removed from the corresponding device icon. Nevertheless, we agree with the Examiner that the X serves as a timer flag because the continued presence of an X on an icon indicates that the query of the corresponding device failed to receive a "True" reply during the timeout period. Appellant has not addressed the Examiner's reliance on the Xs as representing timer flags.

Nor does Appellant contend that the Examiner is incorrect to read the "first timer flag" and the "second timer flag" on two of the four network-system timeouts, i.e., ARP timeout, TCP SYN, ACK timeouts, and DNS query timeouts (Answer 4 and 14-15, para. B). Instead, Appellant argues that these network-system timeouts fail to correspond to the recited timer flags because the GUI has no control over those timeouts and cannot detect or change their values (Reply Br. 3-4). However, Claim 1 does not require that the scoreboard be capable of detecting or changing the timing function represented by the timer flags.

Finally, the Examiner is correct to read the recited "device adapted to manage the plurality of transaction identifiers in the scoreboard" on the GUI (Final Office Action 3; Answer 15, para. C). Appellant argues that because the GUI lacks control over the network-system timeout periods and does not provide any way to detect or change their values, it does not manage the transaction identifiers, which include the timer flags (Reply Br. 4). This argument reads too much into the term "manage" in Claim 1. The claim does not require that the "device adapted to manage the plurality of transaction identifiers in the scoreboard" have any control over the duration of the timeout period.

For the foregoing reasons, we are affirming the rejection of Claim 1 for anticipation by Eden. Inasmuch as Appellant does not separately argue the merits of dependent claims 2-12 and 38-40, we are also affirming the rejection with respect to those claims. *In re Young*, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991); 37 C.F.R. § 41.37(c)(1)(vii)(2004).

Independent Claim 13 repeats the first paragraph of Claim 1 and additionally recites:

> a timer adapted to compare the length of time the transaction identifiers remain in the scoreboard to a predetermined latency period; and
> a fill-code generator adapted to initiate a time-out sequence when notified that at least one transaction identifier has remained in the scoreboard for substantially longer than the predetermined latency period.

The Examiner reads the recited "timer" on Eden's network-system timeouts, explaining that the term "time-out" is defined in *Microsoft Press Computer*

Dictionary (3d ed. 1997) as: "An event that indicates that a predetermined amount of time has elapsed with out [sic] some other expected event taking place" (Answer 17). Appellant argues that the predetermined latency periods of Eden's network-system timeouts are not compared to the length of time that transaction identifiers remain in the scoreboard, as required by the claim (Br. 9; Reply Br. 6). We agree. The predetermined latency period of the network-system timeout is instead compared to the time it takes for the querying device 102 to receive a "True" reply from the queried device.

The rejection of Claim 13 and its dependent Claims 14-18 and 41-43 is therefore reversed. The rejection of these claims is also being reversed for another reason, which is that the Examiner's discussion of the rejection of Claim 13 (Final Action 5; Answer 7 and 16-17, para. D) fails to explain how the recited "fill-code generator" reads on Eden. This limitation is argued at page 9 of the Brief and thus should have been addressed by the Examiner.

Independent Claim 19 reads:

> 19. A method, comprising:
> storing at least transaction identifier in at least one of a plurality of locations in a scoreboard, wherein the at least one transaction identifier is associated with a transaction, wherein each transaction comprises a first client sending a request to a second client in a system, and wherein each transaction identifier includes a first timer flag and a second timer flag;
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> timing a selected duration; and
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> initiating a time-out sequence if the selected duration is substantially longer than a predetermined latency period.

Unlike Claim 13, this claim does not require that the predetermined latency period be compared to the length of time that a transaction indicator is stored in the scoreboard. The "timing" and "initiating" steps in Claim 19 are therefore broad enough to read on Eden, in which the network-system timeout period (the recited "predetermined latency period") is compared to the time it takes to receive a "True" response from the queried device (the recited "selected duration"). If the time it takes to receive a True response is substantially longer than the timeout period, the querying device issues a timeout sequence in the form of a "False" answer.

The rejection of Claim 19 and unargued dependent Claims 20-30 is therefore affirmed.

Independent Claim 31 recites, *inter alia*, using a free-running timer to initiate a time-out sequence if the transaction identifier remains in the scoreboard substantially longer than the predetermined latency period of the timer. This limitation distinguishes over Eden in the same way as the similar limitation in Claim 13. The rejection is therefore reversed as to Claim 31 and dependent Claims 32-37.

DECISION

The rejection of Claims 1-43 under 35 U.S.C. § 102(e) for anticipation by Eden is affirmed with respect to Claims 1-12, 19-30, and 38-40 and reversed with respect to Claims 13-18, 31-37, and 41-43.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. 1.136(a). *See* 37 C.F.R. §§ 41.50(f) and 41.52(b).

AFFIRMED-IN-PART

BARRY, *Administrative Patent Judge, concurring.*

I concur with my colleagues and write separately with an additional observation. As aforementioned, "the PTO gives claims their 'broadest reasonable interpretation.'" *In re Bigio*, 381 F.3d 1320, 1324, 72 USPQ2d 1209, 1211 (Fed. Cir. 2004) (quoting *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1668 (Fed. Cir. 2000)). As part of this interpretation, "'[w]here . . . printed matter is not functionally related to the substrate, the printed matter will not distinguish the invention from the prior art in terms of patentability.'" *In re Ngai*, 367 F.3d 1336, 1339, 70 USPQ2d 1862, 1864 (Fed. Cir. 2004) (quoting *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed.Cir.1983)). "Although the printed matter must be considered, in that situation it may not be entitled to patentable weight." *Gulack*, 703 F.2d at 1385, 217 USPQ at 404.

Here, claim 1 recites in pertinent part the following limitations: "a first timer flag and a second timer flag. . . ." I view the phrase "a first timer flag and a second timer flag" as analogous to unpatentable printed matter. Because no timing is claimed, and no action is performed in response to the timer flags, the data representing the flags lack a functional relation to the claimed apparatus. Therefore, the phrase is not entitled to patentable weight.

In an *ex parte* appeal, however, the Board "is basically a board of review C we review . . . rejections made by patent examiners." *Ex parte Gambogi*,

62 USPQ2d 1209, 1211 (B.P.A.I. 2001). Therefore, I leave it to the Examiner to decide whether the aforementioned interpretation should be adopted in any further examination.

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